

Shri Shivaji Education Society Amravati's  
**SCIENCE COLLEGE, CONGRESS NAGAR, NAGPUR**  
**DEPARTMENT OF PHYSICS**  
**INTERNAL ACADEMIC AUDIT**  
**2019-2020**

1. Vision and Mission of the Department

To achieve academic excellence in teaching Physics at UG and PG level

2. A. Faculty Strength:

Faculty	Recruited	Vacant	Remarks
Regular	03	05	
CHB	09	01	
Ad-hoc	05	01	
Non-teaching	03	02	

B. Faculty profile

Name	Highest Qualification	Designation	Specialization	Teaching Experience
Dr. S. W. Anwane	Ph.D.	Professor and Head	Mathematical Modelling using MAPLE, Special and General Theory of Relativity	20 Yrs
Dr. G. L. Jadhav	Ph.D.	Assistant Professor	Magnetic Materials	10 Months

Dr. S. S. Darokar	Ph.D.	Associate Professor	Magnetic ceramic Materials	18 Yrs
Dr. S. A. Sharma	Ph.D.	Assistant Professor (Ad-hoc)	Luminescent materials	02 Yrs
Dr. S. A. Sayeed	Ph.D.	Assistant Professor (Ad-hoc)	Dielectric Materials for capacitors	04 Yrs
Mr. G. D. Kale	M.Sc. SET(Physics)	Assistant Professor (Ad-hoc)	Spinal Ferrites	03 Yrs
Mr. C. R. Kumar	M.Sc. SET(Physics)	Assistant Professor (Ad-hoc)	Organic Optoelectronic Devices,	03 Yrs
Miss. P. P. Dixit	M.Sc. Physics	Assistant Professor (Ad-hoc)	Organic Luminescent Materials	01 Yrs
Miss. A. S. Kothare	M.Sc. Physics	Assistant Professor (Ad-hoc)	Piezo-Polymers	01 Yrs
Dr. S. S. Pote	Ph.D.	Assistant Professor (CHB)	Luminescent materials	06 Yrs
Dr. S. A. Narkhede	Ph.D.	Assistant Professor (CHB)	Dielectric Materials for capacitors	04 Yrs
Miss. V.V. Parhad	M.Sc. Physics	Assistant Professor (CHB)	Organic Luminescent Materials	00 Yrs

### 3. Students strength

Year	Group	Number of Students Admitted
B.Sc. Semester I	PCM	50
	PEM	23

	PCsM	55
	PCG	22
	<b>Total</b>	<b>150</b>
B.Sc. Semester III	PCM	45
	PEM	28
	PCsM	44
	PCG	24
	<b>Total</b>	<b>141</b>
B.Sc. Semester V	PCM	56
	PEM	22
	PCsM	53
	PCCs	01
	PCG	19
	<b>Total</b>	<b>151</b>
M.Sc. I		<b>22</b>
M.Sc. II		<b>22</b>
Ph.D.		<b>05</b>
Value Added Program	COC MAPLE (Certificate)	
	COC MAPLE(Diploma)	

#### 4. Students Performance

##### A. Result Analysis (Winter 2019 )

Programme Code	Programme Name	Programme Specialization	Number of students appeared in the final year examination	Number of students passed in final year examination	Pass Percentage
B.Sc.	B.Sc.	Physics	145	113	77.93%
M.Sc.	M.Sc.	Physics	20	14	70.00%

Result of EVEN Semester is not available due to COVID-19

##### B. Achievements (Medals/Awards/Prizes at University level)

Sr.No.	Name of the Students	Class	Title
1.	Yogesh Nimje, Sagar Paikmare	M.Sc. II	First Prize at NSD-2020 Organised By RTM Nagpur University

5. Students Progression:

(i) Students' publication in Extracurricular activity

Title of the Paper	Name of Author	Title of journal	Year of publication
Synthesis and Photoluminescence study of Strontium salts with 2-Methyl-8-Hydroxyquinoline and 8-Hydroxyquinoline	C Ruchir Kumar, S. W. Anwane, Yogesh Nimje	Journal of Physics: Conference Series	August 2020

(ii) Students' Extension Activity

Sr. No.	Name of Student	Participation
1.	Yogesh, Sagar	Raman Innovation Festival – 200 Secured 3 <sup>rd</sup> Position
2.	Yogesh, Sagar	National Science Day – 2020 Secured 1 <sup>st</sup> Position

(iii) No. of Students pursuing higher course

(iv) Students' participation in seminar

Student of M.Sc. Sem IV Physics participated in conference

Sr. No.	Name of Students	Conference type	Participation as
1.	Yogesh Nimje	National Conference	Poster Presentation
2.	Sagar Paikmare, Yogesh Nimje	International Conference	Poster Presentation
3.	Dhanashree Ghugul	National Conference	Poster Presentation

- (v) Students' Learning course through-on-line

### **PhysicsPro Mobile App Developed**

The app facilitates Physics Learning for UG/PG students in the Science and Engineering Faculty. It mainly caters Video Lectures as well as notes in PPT and PDF format. We have plans to cover major areas pertaining to the curriculum devised by Indian Universities. This app developed by students is available on Google Play Store: <http://bit.ly/2PkcPGG>

#### **Video Lectures available now: 34 hrs 50 min**

- (i) TRANSIENT CURRENT (1hr 11 min)
- (ii) AC CIRCUITS (1hr 24 min)
- (iii) QUANTUM MECHANICS (4hrs 10 min)
- (iv) GRAVITATION (2hrs 26 min)
- (v) SPECIAL RELATIVITY (2hrs 35 min)
- (vi) STATISTICAL MECHANICS (5hrs 27 min)
- (vii) SEMICONDUCTORS (4hrs 12 min)
- (viii) CRYSTAL STRUCTURE (50 min)
- (ix) ELECTROSTATICS & DIELECTRICS (3hrs 13 min)
- (x) B E Sem-I Engineering Physics (BESI-2T) (9hrs 12 min)

## 6. Faculty

### I. Research Paper Publications

#### A. Total Number of publications:

- i) International   6
- ii) National   1

#### B. Bibliometrics of the publications during the last Academic year based on average citation index in Scopus/ Web of Science or PubMed/ Indian Citation Index

Title of the Paper	Name of Author	Title of journal	Year of publication	Citation Index	Institutional affiliation as mentioned	Number of citations excluding

					in the publication	self-citation
Samarium doped ZnO nanofibers for designing orange - red light emitting fabrics	C.N.Pangul, S.W.Anwane, S.B.Kondawar	Materials Today: Proceedings 15 (2019) 464–470.	2019		Shri Shivaji Education Society's Science College, Nagpur	
Foucault's Pendulum Exploration Using MAPLE18	S.W.Anwane, Y.S.Anwane,	Resonance Vol. 24 Issue 6 June 2019 pp 661-679	2019		Shri Shivaji Education Society's Science College, Nagpur	
Synthesis and Photoluminescence study of Strontium salts with 2-Methyl-8-Hydroxyquinoline and 8-Hydroxyquinoline	C Ruchir Kumar, S. W. Anwane, Yogesh Nimje	Journal of Physics: Conference Series	August 2020	h-index 70	Shri Shivaji Education Society's Science College, Nagpur	--
Green synthesis and photoluminescent study of Bis(8-Hydroxyquinoline)Lead(II).	C. R. Kumar, P. P. Dixit, S. W. Anwane	Jordan Journal of Physics	2020	h-index 1	Shri Shivaji Education Society's Science College, Nagpur	--
Synthesis and photoluminescence study of Bis(2-methyl-8-Hydroxyquinoline)Cadmium(II).	C. R. Kumar, P. P. Dixit, S. W. Anwane	Jordan Journal of Physics	2020	h-index 1	Shri Shivaji Education Society's Science College, Nagpur	--
Spray Deposition, Structural Characterizations and Infrared Properties of Divalent Cd <sup>2+</sup> Substituted Cobalt Ferrite Thin Film	Gajanan L. Jadhav, Atul P. Keche , S. D. More , M. K. Babrekar , C	IOSR Journal of Engineering (IOSRJEN) www.iosrjen.org ISSN (e): 2250-3021, ISSN (p): 2278-8719	Vol. 12, Issue 6 (Feb. 2019)	-	Department of physics Dr. B.A.M.U. Aurangabad	--
Pyrolytic spray deposition and characterization of nano-crystalline cobalt ferrite thin film	Gajanan L. Jadhav <sup>1</sup> , Atul P. Keche , S. D. More , M. K. Babrekar , C. M. Kale. M. Kale	Journal of emerging technologies and innovative Research (JTIR)	Dec 2018, Vol. 5 Issue 12	-	Department of physics, Indraraj Art, Commerce and Science college Sillod.	--

### C. Faculty participation in conferences/seminar/workshop and symposia:

Name of the Faculty	Title of Conference/ Seminar/ workshop Attended	Period	Level International/ National/State /University /College	Whether Presented papers	Whether abstract /paper published in Souvenir/Abstract Book
C. Ruchir Kumar	11th National Conference on Solid State Chemistry and Allied Areas(NCSCA-2019)	20th& 21st December 2019	National	Yes	Yes
C. Ruchir Kumar	International Web Conference on Advanced Material Science & Nanotechnology (NANOMAT-2020)	20th-21st June 2020	International	Yes	Yes
Dr. Gajanan L. Jadhav	National Conference on Science and technology: Rural development	27 Nov 2019 – 28 Nov 2019	National Conference	No	No
Dr. Gajanan L. Jadhav	International Conference on Advance in Physical, Chemical and Mathematical Sciences	13th Feb – 16th Feb 2019	International Conference	Yes	--

#### D. Awards to Faculty members

#### 7. MoUs signed with institutions of national, international importance, other universities, industries, corporatehouses etc. during the year

Date of MOU	Organization	Purpose/Activity	Student Participate under MOU

#### 8. Research funds sanctioned and received from various agencies, industry and other organizations

Nature of the Project	Duration	Name of funding Agency	Amount Sanctioned	Amount Received

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9. Books Published

Name of the Author	Book		Book Edited
	Title	ISBN and Date	Chapter

10. Research Guidance by Faculty during the year

Name of the guide	Ph.D		
	Awarded	Submitted	Registered
S W Anwane		01*	

\* *Mrs. Chaitali Keche Pangul* submitted Ph.D. thesis entitled ***Photoluminescence properties of Rare Earth Ion Doped ZnO Nanofibres*** on 3.8.2019 (Date of Registration 14/05/2015)

11. Action Plan of the Department

12. Best Practices of the department

13. SWOT Analysis